RESOURCE MANAGEMENT ANNUAL STATUS REPORT

Yukon-Charley Rivers National Preserve
Gates of the Arctic National Park and Preserve
November, 1998

Cultural Resources Activities

YUCH/GAAR - With assistance from Angela Demma and others, Eileen Devinney is developing Cultural Site Monitoring Plans for both Yukon-Charley Rivers National Preserve (YUCH) and Gates of the Arctic National Park and Preserve (GAAR). A trip was made to the Itkillik River area to test how difficult it might be for future monitors to locate known sites, assess and document their condition, and make recommendations for actions. Archeological and historical data for 1,248 YUCH and GAAR sites have been compiled into two MSAccess databases, allowing for identification, sorting, tracking, and prioritizing of cultural sites. A priority table for site monitoring needs was produced, ranking sites by overall significance and known natural and human threats. Jobe Chakuchin is reviewing the tables to provide input regarding known human impacts and usage in cultural site areas. A first draft of the plan will be available by the end of October 1998.

YUCH/GAAR - Cultural sites documentation needed for the management of park resources has been obtained from the AKSO, SHPO, and other sources. Additional information is needed from the AKSO and will be copied as time allows. Cultural site maps and partial site files for YUCH and GAAR are organized and stored in the Fairbanks office. In addition, cabin site databases for both park units were completed and updated in FY98.

YUCH/GAAR - The museum collections that were in Eagle have been moved to Fairbanks and all collections (except herbarium) have been consolidated into the dedicated storage space at park headquarters. This improves collections access and security issues that were noted on the 80-1 checklist as deficiencies. In addition, archival collections are now housed in a locking storage cabinet. 141 lichen specimens were cataloged into the GAAR museum database.

YUCH - Cultural resource staff worked with the FirePro crew for ten days in June, selectively clearing brush around twelve cabin sites after assessing hazards. Photographs and condition notes were taken for each site in order to update park cabin files. Working in conjunction with the clearing work, AKSO staff obtained LCS documentation at seven of the twelve sites.

YUCH - We have received the final manuscript of the Han Ethnography, prepared by Bill Simeone and Craig Mishler, anthropologists with ADF&G.

University of Alaska Press is very interested in publishing it. They are currently reviewing the manuscript and will decide by October 31, 1998 if they will publish it.

YUCH - We are working with the UAF Alaska Quaternary Center to produce the natural history components of the environmental history of the Yukon River from Whitehorse to Circle. Subject matter experts will review and summarize existing knowledge in the areas of riverine ecology, terrestrial ecology, hydrology, and geology of the region, producing summary papers, bibliographies, and recommendations for future research. These pieces, in combination with the cultural history components, will provide background information for the overall environmental history. This year's work includes completing the cultural components of the study, identifying an author to write the environmental history, and co-sponsoring, with Parks Canada, a Yukon River natural history conference in Dawson.

GAAR - Owen Mason, of UAF, is the principle investigator for this project that will design and test a technique for using high resolution remote sensing satellite imagery in archaeological survey in remote areas of GAAR. Owen and Cyd have applied for the necessary SCI (top-secret) security clearance to use the classified data. Owen is determining which sites to use to test and ground truth the remote sensing techniques. He is consulting with Grant Spearman and Ted Birkedal about the sites. Once the sites are identified, we will submit our satellite imagery request.

GAAR - This project is being completed through a contract with the North Slope Borough and will result in an ethnographic synthesis and annotated bibliography for the Nunamiut and a photo album style magazine with historic and contemporary images of Anaktuvuk Pass residents and pertinent text and quotations. We will have the final synthesis on December 31, 1998. The photo album will be completed on February 28, 1999.

Natural Resources Activities

YUCH/GAAR - Databases: Early this year, resources staff met with GIS staff from AKSO to discuss database development and management in relation to ArcView-based GIS. While a variety of database programs have been used by the staff, we agreed that using only one or two compatible programs is best for preservation of the data and ease of transferability between users. MS Access 97 and dBase III are the recommended choices. While Access is the easiest to learn for people not already familiar with dBase or another database program, data being entered into ArcView as a GIS database needs to be in .dbf format (i.e. a dBase file). This is not a problem for Access users since Access can be easily transformed into a dBase file. MS Excel is also compatible with dBase and may be preferable over Access, depending on the data.

Existing Data: The main files and library were organized and should be up-to-date now with copies of reports in both locations. The plant specimens in the Bettles herbarium were verified by a UAF museum botanist and a herbarium database was developed for documenting each specimen. Not all of the specimens have been entered into the database, however. Data entry into the herbarium database should be completed before the 1999 field season. A database was developed for the GAAR sheep survey done by Singer. The survey units for this survey were digitized and 3 years worth of data were entered into the database and GIS. An updated version of the peregrine database for YUCH has also been obtained (from USFWS).

GIS Station: More staff are familiar with using ArcView now than last year. The GIS was used for a variety of purposes by a number of people in both cultural and natural resources, and the GIS station is frequently in use. Most of the questions people had regarding using ArcView could be answered. The more difficult questions were referred to John Pinamont of the AKSO GIS team. The addition of the new GIS computer has been a great asset to our GIS station, as there is often more than one person using GIS at once.

YUCH/GAAR - This fall we set up spill response kits for aviation operations at Coal Creek, Eagle and Bettles. Fire Management Officers from the NPS & AFS met with the Operations Chiefs from YUCH & GAAR to update the Fire Management Zone maps last winter with the AFS. Further changes are expected this winter to accommodate changes in land status.

YUCH/GAAR - Jobe is currently working on the "Areas/Resources at Risk" ranking criteria for both YUCH and GAAR. This fall Jobe will input all HIS Inventory data for the 1998 field summary report. A component of the HIS work will involve creating slide photo links in GIS to HIS locational data.

GAAR - The Firepro technician work in GAAR was in support of the land cover mapping project with Sara Wesser. One of the technicians assisted in prepping the Walker Lake burn project this summer. Jobe and Dan LeMay from Bettles later went to the NPS Walker Lake cabin to burn the wood pile August.

GAAR - In the 1998 field season, Jobe visited the Human Impact Sites at Walker Lake and the upper Kobuk River. He also continued work along the Dalton highway, by visiting Human Impact Sites at the Itkillik Valley and North Fork of the Koyukuk River.

GAAR - We completed the first year of vegetation and soils monitoring of ATV trails within the park. We were able to monitor 61 plots within the Anaktuvuk River, Kollutaruk Creek and John River drainages. The sites were located cross a variety of moisture classes and habitat types, perpendicular to ATV trails in

moderate to high use areas. These sites were selected during in 1997 while testing the monitoring protocol. These same sites will be visited periodically over a 5-year period. Without exception, the wettest communities are the most susceptible to ATV damage. Within the wet communities, vegetation without woody root base were most highly impacted. Multiple paths were common in the wet areas because travelers try to avoid the wet soils.

GAAR - The second annual snowshoe hare track count survey was conducted in the Wiseman area of GAAR March 23-30, 1998. The snow was very hard during the first day's count; these data will probably be thrown out of the final analysis since that count was likely to be highly inaccurate. However, conditions improved over the next couple of days with a fresh layer of snow. We were then able to count tracks on 3 consecutive days, and feel these are good data.

The abundance of tracks and browsed stems, along with several observations of hares, indicate a greatly increased hare population over last year. Because of the high density of tracks, we shortened the transect lengths to 100m. A total of 400m were sampled in lightly vegetated areas, 400m in moderately vegetated areas, and 300m in densely vegetated areas.

This year, in addition to counting tracks, data from browsed plant stems was taken. Soil samples were also collected from bluffs along Washington Creek where hares (and other animals) were eating the dirt. According to Jack Reakoff of Wiseman, hares are always in this area, even when absent from other areas during periods of hare population lows. The soil was collected for analysis of salts and clays, which may play a part in the hares' nutrition and/or defenses against toxins.

GAAR - The annual neotropical bird monitoring surveys took place from June 8-17, 1998. The objectives of this program are to: 1) identify resident or breeding bird species in 3 distinct areas of the park; 2) collect baseline information on bird species abundance in these 3 areas; and 3) obtain habitat use information for bird species in these areas. Beginning at 0300 h, all birds heard or seen during a 5-minute period were recorded at each of 12 points along a 4-mile transect. Shelli Swanson and Donna DiFolco surveyed the Noatak off-road point count transect on June 11; Donna, Chris McKee, and Elvin Dayton conducted the Anaktuvuk Pass Route on June 15; and Shelli and Robyn Burch surveyed the Middle Fork Koyukuk Route on June 14. Species diversity was highest on the Middle Fork Route (22 species) and lowest on the Anaktuvuk Route (11 species). Fourteen species were identified on the Noatak Route. Copies of the data books have been sent to Boreal Partners in Flight for incorporation into the statewide and national databases. A final report for these surveys will be completed in FY99. This monitoring program has been in operation since 1993. Sixty-four species and corresponding habitat information has been identified through this survey effort.

GAAR - Eighteen sheep were radio-collared near Anaktuvuk Pass on March 24, 25, and 26, 1998. Eleven radio-tracking flights were conducted during the fiscal year. The farthest distances between any two relocation points for each individual sheep ranged from 5.9 km to 14.3 km; the average distance was 10.7 km; median distance was 11.6 km. The areas included in the minimum convex polygons (MCP) ranged from 11.8 km^2 to 70.7 km^2. No radio-marked individual had crossed a major drainage like the John or the Kollutarak or the Anaktuvuk Rivers. An aerial sheep survey of 475 mi^2 of sheep habitat around AKP was conducted using a fixed-wing (supercub) on June 28, 29, 30 and July 1, 1998. A total of 386 sheep were counted. Composition was 27 lambs:100 "ewe-likes" and 35 rams (≥1/2 curl):100 "ewe-likes". Ground-based sheep composition counts, conducted concurrently with the fixed-wing surveys, were attempted in wilderness areas. We found that when sheep densities are low, it is difficult to access an adequate sample size of sheep for classification. Park staff continue to work with the village in establishing a reporting system for the community harvest.

YUCH - Off-road Point Counts began in 1997. The objectives of the program are to: 1) identify resident or breeding bird species in boreal forest habitat in the preserve, 2) collect baseline information on bird species abundance in this area, and 3) collect habitat use data for bird species in the area. Chris and Elvin completed the off-road point count surveys for neotropical migrants at Coal Creek on June 18 and 19. There are 2 transects at this location--one on the road toward Woodchopper Creek and one on the high road towards the Yukon River. Each transect has 12 points. Habitat characteristics were collected at each point. Twenty-one species were identified on the 2 routes in 1998, compared to 23 species in 1997. Copies of the data books have been sent to Boreal Partners in Flight for incorporation into the statewide and national databases.

YUCH - Shelli, Donna, Jim Lawler, Chris, and Todd Rinaldi conducted 24-hour bird song detection surveys in 3 different habitat types near Coal Creek Camp in preparation for the Preserve-wide bird inventory and monitoring effort to begin next year in YUCH; YUCH will receive ~$400,000 to conduct the 3-year bird inventory and monitoring project. The objectives of the 24-hour monitoring project were to: 1) determine peak songbird singing periods during a 24-hour period in different habitats, 2) examine song detection by species over a 24-hour period, and 3) train key personnel in birdsong identification and distance estimation for the upcoming inventory and monitoring project. During the study, a point count with distance estimation was conducted every ½ hour for 5 minutes. This continued over a 24-hour period. Data will be examined to look for peak singing times, species specific singing times, and bird density estimations for the 3 different habitat types. Habitat types monitored were Woodland, Mixed forest, and Birch Forest. This information will be detailed in a

progress report to Gary Williams, NPS Service-wide Inventory and Monitoring Program Coordinator.

YUCH - Monitoring of vegetation at the F-15 crash site was completed for the second year. More time was needed to complete the study this year because a helicopter was not available for access, so we had to hike. An extra 3 days was necessary for access. The sampling protocol that was established during the initial study in 1997 was used again this year. Data will be summarized and reported on by 31 December 1998.

The site appeared no different from last year when observing it from a distance (top of the hill above the site). However, upon closer inspection, there was a noticeable difference in vegetation growth in the impacted area. While most of the heavily impacted area was still barren, it appeared to have a greater amount of growth than observed during the 1997 visit.

Also of note, fuel could be smelled directly over the disturbed soil near the creek (opposite the plot). Fuel odor was not noticed in 1997. This may possibly be due to erosion at the site uncovering contaminated soil.

YUCH - A project to assess the impacts of Military Overflights on human users of the Yukon MOAs was funded through the Resource Protection Council by the US Eleventh Air Force. The Council and its Resource Protection/Mitigation Committee and Research/Monitoring Committee were established to monitor MOA-EIS mitigation plan effectiveness. Shelli Swanson and Terry Haynes (ADF&G, Subsistence Division) developed this project to examine mitigation effectiveness on human users of the interior Alaska MOAs. The objectives of the project are to: 1) determine current and past levels of human use in selected locations within Alaska MOAs; 2) determine current and past levels and types of Air Force activity within these selected areas; 3) collect information pertaining to Air Force activity and its impact on activities/experiences of persons using these selected areas; 4) determine people's expectations when using the selected areas within Alaska MOAs, and 5) evaluate current mitigation efforts and their effectiveness for human users in the selected areas.

Jim Lawler was hired by NPS to produce the report for Phase I of this project, which addresses objectives 1 and 2. He collected past and present visitor use statistics from all agencies with recreational interests in the Yukon MOAs as well as data on Air Force use and flight activity levels in these MOAs. Terry Haynes was contracted to collect and summarize subsistence use and sport hunting and fishing statistics. The above information was incorporated into a final document, entitled "Civilian Use and Military Overflight Activity in Selected Alaskan Military Operations Areas", which is being distributed to all council and committee members and interested parties.

Phase II-related work on this project in FY98 consisted of developing a scope of work with principal investigators Darryll Johnson and Mark Vande Kamp USGS/BRD/FRESC, University of Washington, Field Station. Several meetings were arranged for Darryll and Mark to assess the area and develop a sampling strategy. Meetings with the Air Force and other interested parties were held June 17-19, 1998 in Fairbanks. Darryll and Mark returned July 6-23, 1998 to develop/finalize the Phase II scope of work. The Phase II scope of work was sent out to the committees for review/comment and passed on to the Resource Protection Council for final approval. There was no dissension from either committee about forwarding the scope of work to the Resource Protection Council, and funding will likely be approved for Phase II of the project at the October 15 Council meeting. After funding has been approved and received by NPS, the project will be contracted to Darryll and Mark for FY99-FY01.

YUCH - Kevin Meyer from AKSO, began work this summer to remove 3570 gallons of Diesel #2 at a remote site in lower Woodchopper Creek. Firepro technicians were utilized to provide a safe landing zone for the helicopter sling load operation. Fuel was sling loaded rolligon fuel cells to Coal Creek. With the help of YUCH staff members, Dale Westeen, Todd Rinaldi, and BLM fuel specialist Carl Thorpe, Meyer set up a Thermal Desorption Project at Coal Creek. The Diesel #2 fuel was still suitable for use so it was utilized as an energy source to burn petroleum contaminated soils, dug earlier this summer at Coal Creek.

YUCH - The Yukon-Charley Rivers National Preserve Dall sheep project just completed the second year of a three year study. The primary goals of the project were to: determine seasonal movement patterns of sheep and the extent of those movements to improve the timing and extent of annual sheep surveys; to identify sensitive sheep use areas and temporal use of those areas to help mitigate the impacts of increased low level military overflights; and to develop a long term monitoring plan for Dall sheep in the Preserve. The results so far show that sheep move more frequently and farther distances than initially anticipated. We currently have 17 sheep radio collared and are locating them 40 to 45 time per year. Most sheep move from mountains to river bluffs almost weekly (possibly more frequently), and some sheep have moved up to 30 miles and back again. Two progress report drafts have been written and after the third and final year of data collection a final report will be written.

YUCH - We continue to monitor the YUCH wolf population relative to the Fortymile Caribou Plan for increasing the caribou herd. In the plan the primary action is for the Alaska department of Fish and Game to use fertility control and translocations on the wolf packs surrounding YUCH south of the Yukon River. The monitoring of this population allows us to identify the Preserve packs and help ADF&G decide which wolves should and should not get sterilized and translocated. We are also able to monitor changes in the preserves wolf

population size, pup production and survival, adult survival and dispersal, and harvest rates. We are in frequent communication with ADF&G regarding the preserve wolves, have produced several briefings on the status of the population and written a draft progress report. Annual progress reports will continue to be written a final report prepared pending the completion of ADF&G's fertility control work. The Fortymile caribou herd has responded well and increased from 26000 in July of 1997 to 31000 animals in July 1998 (19%). Certainly, the last 2 winters have been easy on the caribou and have also contributed to the increase of the herd.

YUCH - A moose survey was conducted in YUCH during November 5 - 13, 1997 in anticipation of proposals to liberalize seasons for subsistence hunting in the preserve. The survey was conducted along the Yukon River corridor between Eagle and Circle covering 2757 mi^2. A population of 737 moose was estimated for the area indicating a low density of 0.27 moose per mi^2. Moose composition included 28 calves, 16 yearlings, and 60 bulls per 100 cows. The SRC took this information into account and decided to increase the fall season to Aug. 20 - Sept. 30 from Sept. 5 - Sept. 30. A moose survey report was written and distributed. We are planning to conduct a 1998 survey in November covering the southern half of what was surveyed in 1997.

YUCH - Dall sheep exclosures along the Charley River were visited in late August this year to evaluate the aesthetic impact these might have on visitors and also to collect plant species data following the procedures used in previous visits. All 5 exclosures were visited (without the use of a helicopter); however, plant data was not collected at the "Sheep Bluff" exclosure due to safety concerns and the uncertainty that we would have enough time to sample the bluff and still meet our chartered pick-up schedule. The project took 8 days to complete. Had we sampled Sheep Bluff, we would have taken 9 days.

Exclosures at Cirque Lakes are not visible from the Charley River. However, should visitors hike to the lakes, they would most likely see at least one of the exclosures. Sheep Bluff and Dewey Bluff exclosures, although built in "plain view" of the river, are very difficult to see, as they blend in well with the sides of the bluffs behind them. Hanna Bluff is the one exclosure most visitors are likely to notice, since the fence becomes visible against the sky. This perspective lasts for only a minute or two, but is very obvious.

The methods developed for this study to document vegetation within and outside the fenced areas do not seem to be practical to use under the present conditions. Almost all the stakes in the control plots (those without fencing) were missing. To relocate the exact positions of these stakes is nearly impossible, even if the most precise descriptions of location have been documented. Comments and suggestions for the future of this project will be discussed in the study report, which will be submitted by December 31, 1998.

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